REMARKS

Claims 1-37 are pending in this application.

Claims 13-20 and 30-37 are withdrawn from consideration.

Claims 1-12 and 21-29 are rejected.

Base claims 1 and 22 are rejected under 35 USC 102(e) as being anticipated by Gibson Publication No. 2002/0110074. This rejection is respectfully traversed.

Claim 1 has been amended for clarity. Amended claim 1 recites a data storage device comprising a conductive probe having a tip; a substrate; and a data storage medium including a layer of poled ferroelectric material for storing data. The ferroelectric layer is on the substrate, between the tip and the substrate.

Gibson discloses a data storage device including a storage medium 40, a probe 10, and a fluid medium between the storage medium 40 and the probe 10 (para. 45). The storage medium 40, which contains nanometer-sized storage areas, may include a material capable of holding a localized charge (para. 57). The fluid medium 90 can be a ferrofluid that contains metallic particles 100 (para. 62). When the probe generates an electron beam, the resulting magnetic fields cause the particles to agglomerate and form a conducting path to the storage medium 40 (par. 62).

Although Gibson states that his storage medium may be made of a material that stores localized charges, he does not elaborate further on the material. Thus, Gibson does not explicitly teach a storage medium including poled ferromagnetic

material. Because Gibson does not disclose each feature of claim 1, the '102 rejection of claim1 should be withdrawn.

The office action appears to contend that the particles 100 suspended within the fluid medium 90 constitute a poled ferromagnetic layer for storing data. Figures 3-4 and paragraph 65 are cited. However, the particles 100 do not store data, they simply provide a conductive path from the probe 10 to the storage medium 40. Therefore, Gibson does not explicitly disclose a data storage medium including a ferroelectric layer, let alone a ferroelectric layer that is poled.

Claim 22 recites a method of writing information to a layer of poled ferroelectric material. The method includes using a probe to create local polarization changes in the material. Gibson writes information to the storage medium 40, not the particles 100. Therefore, Gibson does not disclose a method having all of the limitations of claim 22. Consequently, the '102 rejection of claim 22 should be withdrawn.

There is no need to address whether the device of claim 1 or the method of claim 22 is obvlous in view of Gibson. Gibson is a 102(e) reference that is assigned to the assignee of the present application; therefore, it cannot be used in a '103 rejection. Consequently, claims 1 and 22 and their dependent claims 2-13 and 23-26 should be allowed over Gibson. Claims 14-20 have been cancelled.

Claims 1-5, 8, 11-12, 21 and 27-29 are rejected under 35 USC 102(e) as being anticipated by Cho Publication No. 2003/0053400. This rejection has been rendered moot by the amendments above.

Claim 1 has been amended to recite that the substrate includes a semiconductor portion, and that the semiconductor portion and the ferroelectric layer form an electrical junction.

Cho does not teach or suggest this feature. The office action alleges that this feature is disclosed in Figures 1-5. However, the allegation is incorrect. Figures 1-3 and 5 of Cho illustrate a dielectric record medium 11 including a dielectric thin film 12 on an electrode 13 (see paragraph 72). Cho discloses that the dielectric film 12 may be made of a ferroelectric material (para. 58). Other materials, including PVDF, are disclosed in paragraphs 15-23.

Paragraph 72 of Cho also discloses that the electrode 13 may be formed on a silicon substrate (not shown). The dielectric thin film 12 is on one side of the electrode 13, and the silicon substrate is on the other side of the electrode. Therefore, the silicon substrate and the thin dielectric film 12 do not form an electrical junction. Since Cho does not teach or suggest the electrical junction of amended claim 1, amended claim 1 should be allowed over Cho.

Claims 11 and 12 have been amended to depend properly from amended claim 1. Claims 2-12 should be allowed over Cho since they depend from amended base claim 1.

Base claim 21 has been amended to recite a semiconductor substrate; and a data storage medium including a layer of poled ferroelectric material on the semiconductor substrate, the ferroelectric material and the substrate forming an electrical junction. Amended claim 21 should be allowed over Cho for the reasons above.

Base claim 27 has been amended to recite a semiconductor substrate; and a data storage medium including a layer of poled ferroelectric material on the semiconductor substrate, the ferroelectric material and the substrate forming an electrical junction. Base claim 27 has been further amended to recite a read method that involves the electric junction. As discussed above, Cho does not teach or suggest an electric junction formed by a ferroelectric layer and a semiconductor substrate, let alone a read method that uses a semiconductor substrate for signal detection. Therefore, claim 27 should be allowed over Cho.

Claims 28-30 have been amended to depend properly from amended claim 27. These claims should also be allowed over Cho. Claims 31-35 have been cancelled.

Claims 6 and 23 are rejected under 35 USC 103(a) as being unpatentable over Gibson Publication No. 2002/0110074 in view of Thomas U.S. Patent No. 6,046,973. This rejection should be withdrawn because Gibson cannot be used in a '103 rejection. Gibson is a 102(e) reference, and it is assigned to the assignee of the present application.

The examiner is respectfully requested to withdraw the rejections of the claims. The examiner is encouraged to contact applicant's attorney Hugh Gortler to discuss any issues that might remain.